

IN THE CLAIMS:

1. (currently amended) A nonaqueous electrolyte secondary battery including a negative electrode containing a graphite material as the negative active material, a positive electrode containing lithium cobalt oxide as a main component of the positive active material and a nonaqueous electrolyte solution, said battery being characterized in that said lithium cobalt oxide contains 0.05 - 2.0 mol. % of a group IVA element and 0.1 - 2.0 mol. % of a group IIA element of the periodic table and said nonaqueous electrolyte solution contains 0.2 - 1.5 % by weight of a sulfonyl-containing compound.

2. (original) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that, in said positive active material, said group IVA element is zirconium and said group IIA element is magnesium.

3. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said nonaqueous electrolyte solution further contains 0.5 - 4 % by weight of vinylene carbonate.

4. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said sulfonyl-containing compound is at least one of 1,4-butanediol dimethanesulfonate and divinyl sulfone.

5. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said nonaqueous electrolyte solution contains, as said sulfonyl-containing compound, 1,4-butanediol dimethanesulfonate in the amount of 0.5 - 1.5 % by weight.

6. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said nonaqueous electrolyte solution contains, as said sulfonyl-containing compound, divinyl sulfone in the amount of 0.2 - 0.5 % by weight.

7. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said nonaqueous electrolyte solution contains, as a solvent, diethyl carbonate.

8. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said positive active material and negative active material are contained such that a ratio in charge capacity of the negative electrode to the positive electrode is 1.0 - 1.2 when an end-of-charge voltage is prescribed at 4.3 V.

9. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 1, characterized in that said positive active material and negative active material are contained such that a ratio in charge capacity of the negative electrode to the positive electrode is 1.0 - 1.2 when an end-of-charge voltage is prescribed at 4.4 V.

10. (canceled)

11. (previously presented) The nonaqueous electrolyte secondary battery as recited in claim 2, characterized in that said nonaqueous electrolyte solution further contains 0.5 - 4 % by weight of vinylene carbonate.